

FIG. 1

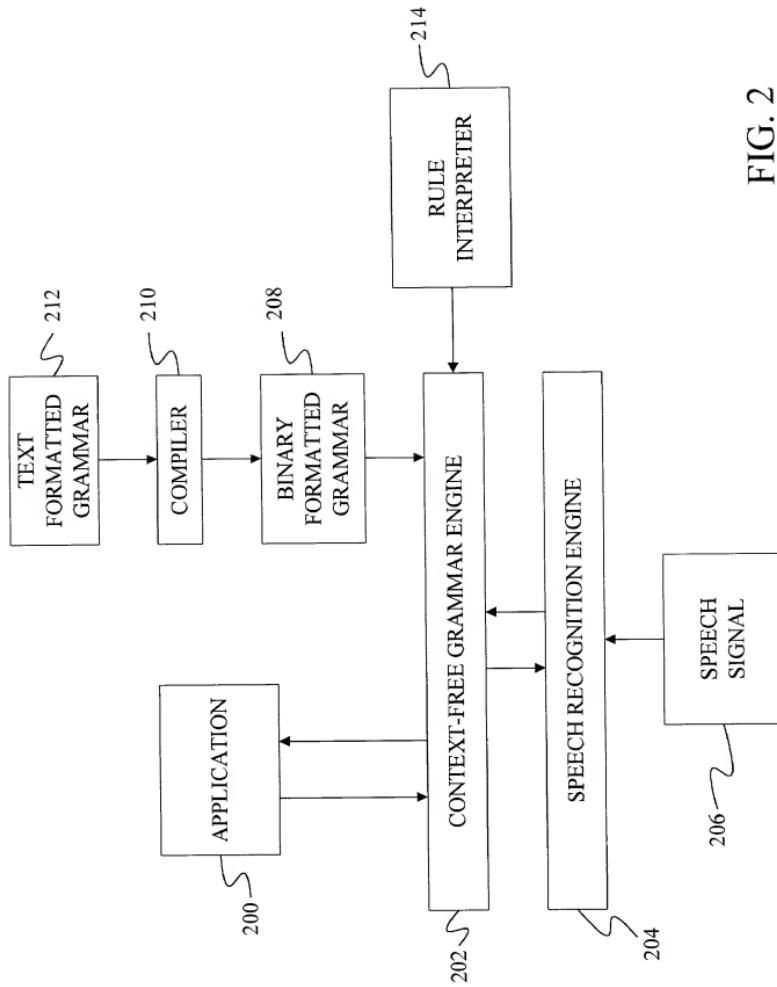
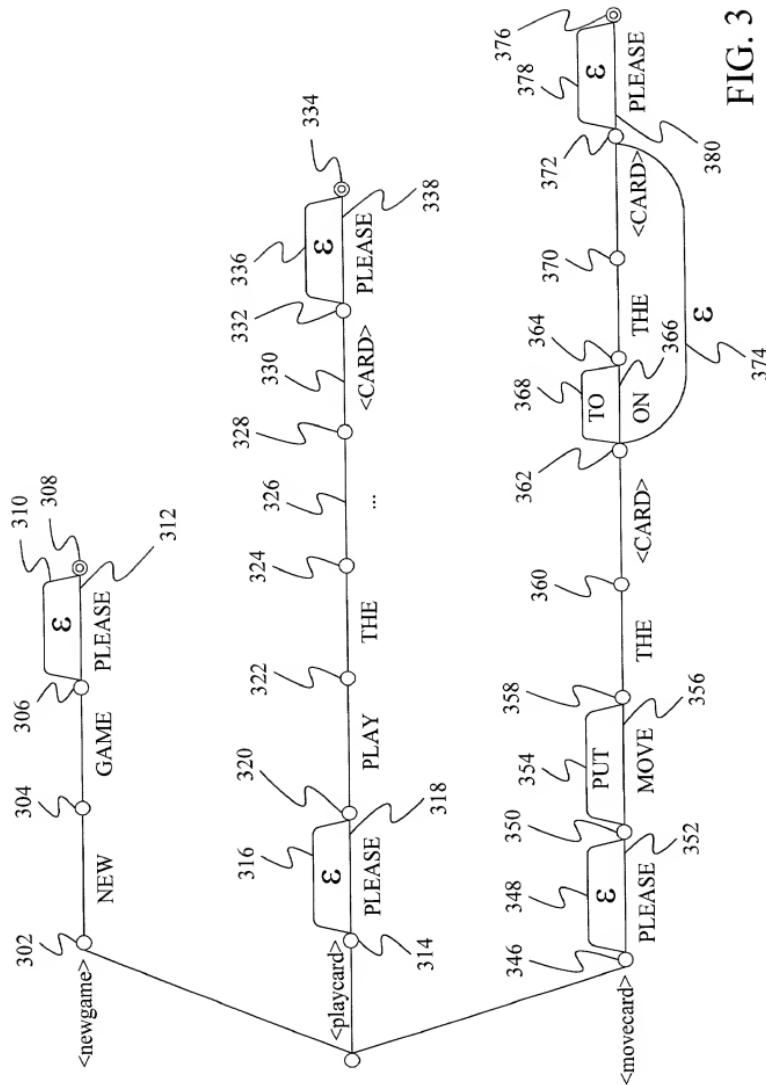


FIG. 2



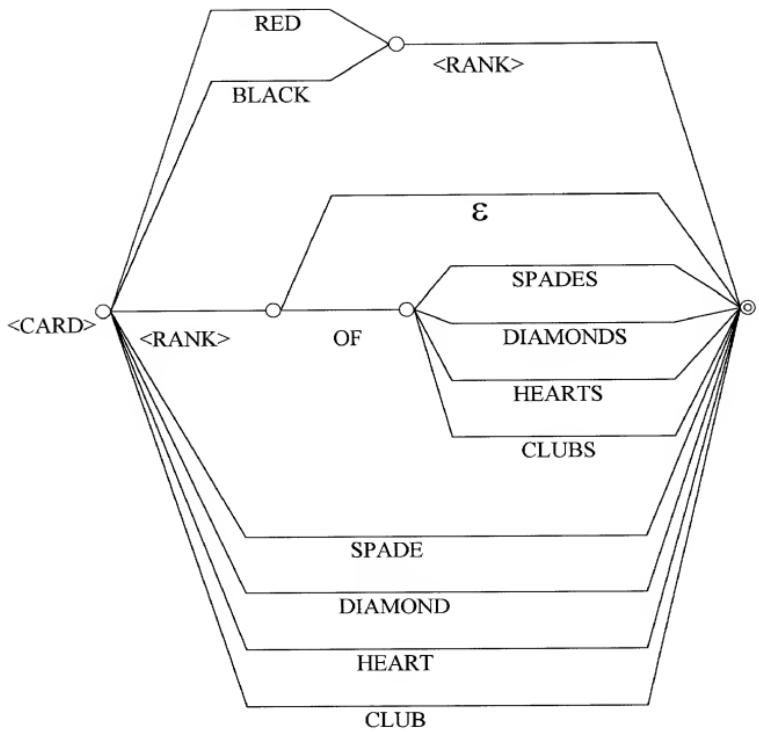


FIG.4

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<GRAMMAR LANGID="1033"> 500
  <DEFINE>
    <ID NAME="FROM" VAL="1"/>
    <ID NAME="TO" VAL="2"/>
    <ID NAME="SUIT" VAL="3"/> 508
    <ID NAME="COLOR" VAL="4"/>
    <ID NAME="RANK" VAL="5"/>
    <ID NAME="ColorRed" VAL="11101"/>
    <ID NAME="ColorBlack" VAL="10011"/>
  </DEFINE>
  <RULE NAME="newgame" TOPLEVEL="ACTIVE">
    <P>new +game</P><O>-please</O>
  </RULE> 560 562 510
  <RULE NAME="playcard" TOPLEVEL="ACTIVE" EXPORT="1">
    <O>please</O> <P>play the</P> <O>...</O>
    <RULEREF NAME="card"/>
    <O>please</O>
  </RULE> 512 522
  <RULE NAME="movecard" TOPLEVEL="ACTIVE"> 530
    <O>please</O>
    <P> 534 538
    <L> 540
    542 <P>move</P> 544
    536 <P>put</P>
    <L> 520
    546 <P>the</P> 548
    <P>
    <RULEREF PROPNAM="from" PROPID="FROM" NAME="card"/>
    <O>
      <L>
        <P>on</P>
        <P>to</P>
      </L>
      <P>the</P>
    <RULEREF PROPNAM="to" PROPID="TO" NAME="card"/>
    <O>
      <P>please</P> 572
    </O>
  </RULE>
  </RULE>
  </GRAMMAR>

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[TO FIG. 6]

FIG. 5

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<RULE NAME="card"> 600
  <L>
    <P>
      <LN PROPNAM="color" PROPID="COLOR">
        <PN VAL="ColorRed">red</PN>
        <PN VAL="ColorBlack">black</PN>
      </LN>
      <RULEREF NAME="rank"/>
    </P>
    <P>
      <RULEREF NAME="rank"/>
    </P>
    <O> 620
      <P>of</P> 626
      <LN PROPNAM="suit" PROPID="SUIT">
        <PN VAL="0">clubs</PN>
        <PN VAL="1">hearts</PN>
        <PN VAL="2">diamonds</PN>
        <PN VAL="3">spades</PN>
      </LN> 622
      <O>
        <LN> 630
        <P>
          <LN PROPNAM="suit" PROPID="SUIT">
            <PN VAL="0">club</PN>
            <PN VAL="1">heart</PN>
            <PN VAL="2">diamond</PN>
            <PN VAL="3">spade</PN>
          </LN>
        </O>
      </P>
    </O>
  </RULE>
  ↓
  [TO FIG. 7]

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FIG. 6

716

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<RULE NAME="rank"> 716
  <LN PROPNAM="rank" PROPID="RANK"> 710
    <PN VAL="1">ace</PN>
    <PN VAL="2">two</PN> 714
    <PN VAL="3">three</PN>
    <PN VAL="4">four</PN>
    <PN VAL="5">five</PN>
    <PN VAL="6">six</PN>
    <PN VAL="7">seven</PN>
    <PN VAL="8">eight</PN>
    <PN VAL="9">nine</PN>
    <PN VAL="10">ten</PN>
    <PN VAL="11">jack</PN>
    <PN VAL="12">queen</PN>
    <PN VAL="13">king</PN>
    <PN VAL="12">lady</PN>
    <PN VAL="13">emperor</PN>
  </LN> 712
</RULE>
</GRAMMAR> 700
```

FIG. 7

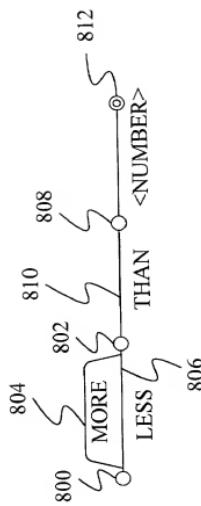


FIG. 8

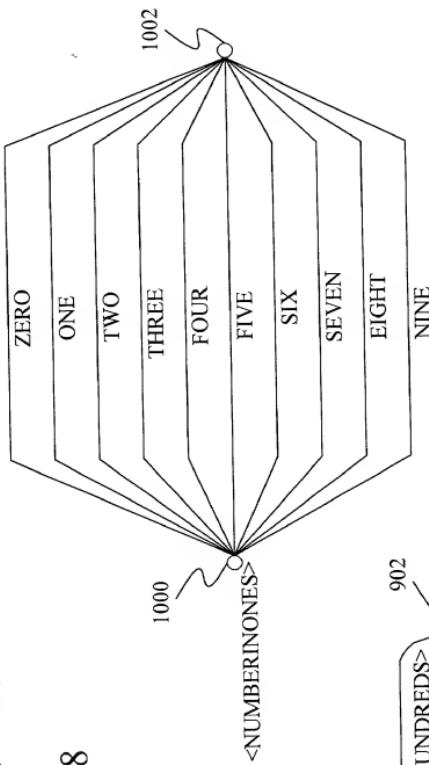


FIG. 10

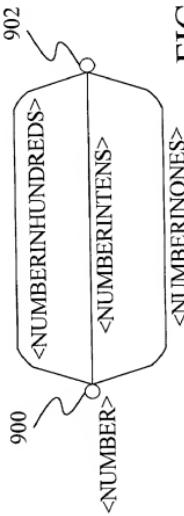


FIG. 9

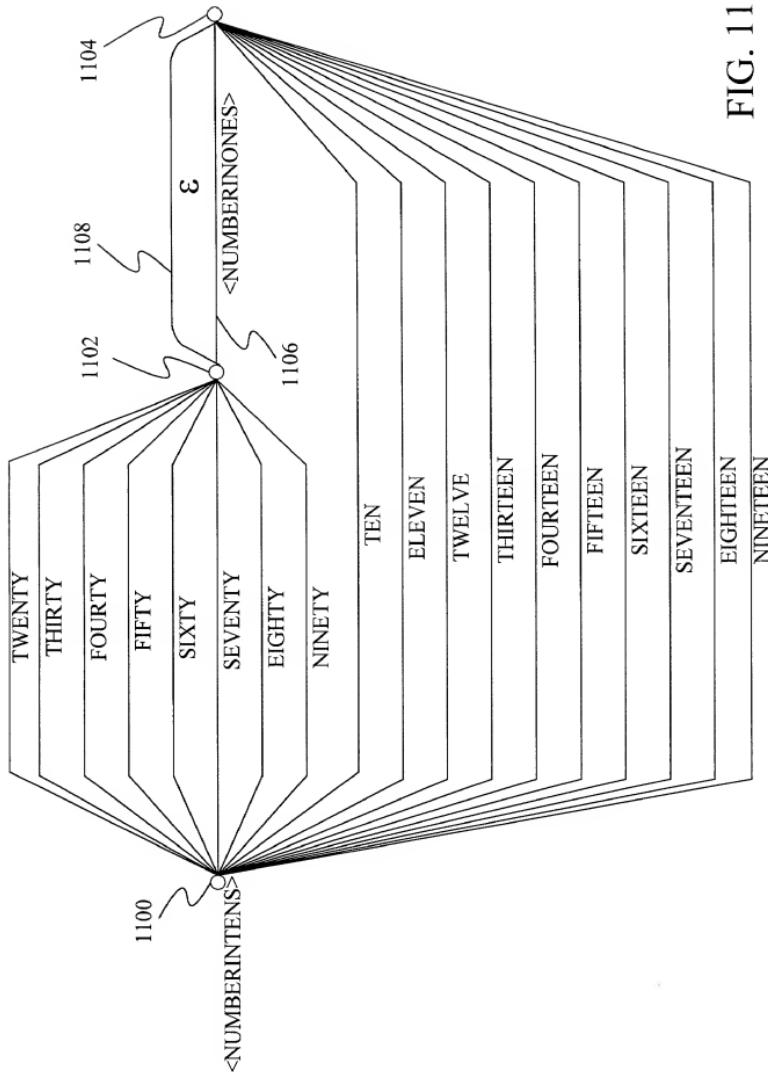


FIG. 11

FOURTY " 41 <46.5< 60

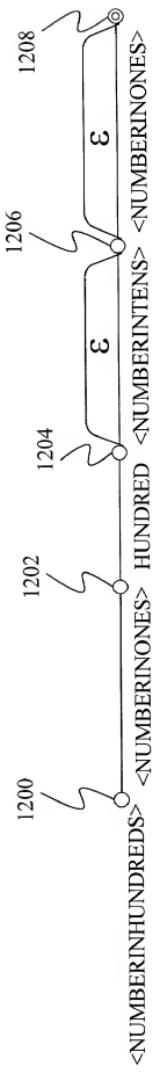


FIG. 12

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<GRAMMAR LANGID="1033">
  <DEFINE>
    <ID NAME="OVER" VAL="1"/>
    <ID NAME="ONES" VAL="9898"/>
  </DEFINE>
  <RULE NAME="moreorless" TOPLVEL="ACTIVE">
    <LN PROPNAM="over" PROPID="OVER" >
      <PN VAL="1">more</PN>
      <PN VAL="0">less</PN>
    </LN>
    <P>than</P>
    <RULEREF PROPNAM="givennumber" NAME="number"/>
  </RULE>
  <RULE NAME="number" INTERPRETER=1>
    <L>
    <RULEREF NAME="numberinhundreds"/>
    <RULEREF NAME="numberintens"/>
    <RULEREF NAME="numberinones"/>
    <L>
  </RULE>
  <RULE NAME="numberinones">
    <LN PROPNAM="ones" PROPID="ONES" >
      <PN VAL="0">zero</PN>
      <PN VAL="1">one</PN>
      <PN VAL="2">two</PN>
      <PN VAL="3">three</PN>
      <PN VAL="4">four</PN>
      <PN VAL="5">five</PN>
      <PN VAL="6">six</PN>
      <PN VAL="7">seven</PN>
      <PN VAL="8">eight</PN>
      <PN VAL="9">nine</PN>
    </LN>
  </RULE>

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Annotations with numbers and arrows:

- 1300: An arrow points from the text "more" to the node <PN VAL="1">more</PN>.
- 1302: An arrow points from the text "less" to the node <PN VAL="0">less</PN>.
- 1306: An arrow points from the text "than" to the node <P>than</P>.
- 1308: An arrow points from the node <LN> to the node <P>than</P>.
- 1310: An arrow points from the node <RULEREF PROPNAM="givennumber" NAME="number"/> to the node <RULEREF NAME="numberinhundreds"/>.
- 1312: An arrow points from the node <P>than</P> to the node <RULEREF NAME="numberintens"/>.
- 1314: An arrow points from the node <RULEREF NAME="numberintens"/> to the node <RULEREF NAME="numberinones"/>.
- 1320: An arrow points from the node <L> to the node <RULEREF NAME="numberinhundreds"/>.
- 1324: An arrow points from the node <L> to the node <RULEREF NAME="numberintens"/>.
- 1326: An arrow points from the node <L> to the node <RULEREF NAME="numberinones"/>.
- 1328: An arrow points from the node <RULEREF NAME="numberinhundreds"/> to the node <RULEREF NAME="numberintens"/>.
- 1330: An arrow points from the node <RULEREF NAME="numberintens"/> to the node <RULEREF NAME="numberinones"/>.
- 1332: An arrow points from the node <RULEREF NAME="numberinones"/> to the node <PN VAL="0">zero</PN>.
- 1340: An arrow points from the node <LN PROPNAM="ones" PROPID="ONES" > to the node <PN VAL="0">zero</PN>.
- 1344: An arrow points from the node <PN VAL="0">zero</PN> to the node <PN VAL="1">one</PN>.
- 1346: An arrow points from the node <LN PROPNAM="ones" PROPID="ONES" > to the node <PN VAL="1">one</PN>.
- 1348: An arrow points from the node <PN VAL="1">one</PN> to the node <PN VAL="2">two</PN>.
- 1349: An arrow points from the node <PN VAL="2">two</PN> to the node <PN VAL="3">three</PN>.
- 1350: An arrow points from the node <PN VAL="3">three</PN> to the node <PN VAL="4">four</PN>.
- 1351: An arrow points from the node <PN VAL="4">four</PN> to the node <PN VAL="5">five</PN>.
- 1352: An arrow points from the node <PN VAL="5">five</PN> to the node <PN VAL="6">six</PN>.
- 1353: An arrow points from the node <PN VAL="6">six</PN> to the node <PN VAL="7">seven</PN>.
- 1354: An arrow points from the node <PN VAL="7">seven</PN> to the node <PN VAL="8">eight</PN>.
- 1355: An arrow points from the node <PN VAL="8">eight</PN> to the node <PN VAL="9">nine</PN>.
- 1356: An arrow points from the node <PN VAL="9">nine</PN> to the node </LN>.
- 1357: An arrow points from the node </LN> to the node </RULEREF PROPNAM="givennumber" NAME="number"/>.
- 1358: An arrow points from the node </RULEREF PROPNAM="givennumber" NAME="number"/> to the node </RULE NAME="number" INTERPRETER=1>.
- 1359: An arrow points from the node </RULE NAME="number" INTERPRETER=1> to the node </GRAMMAR LANGID="1033">.

FIG. 13

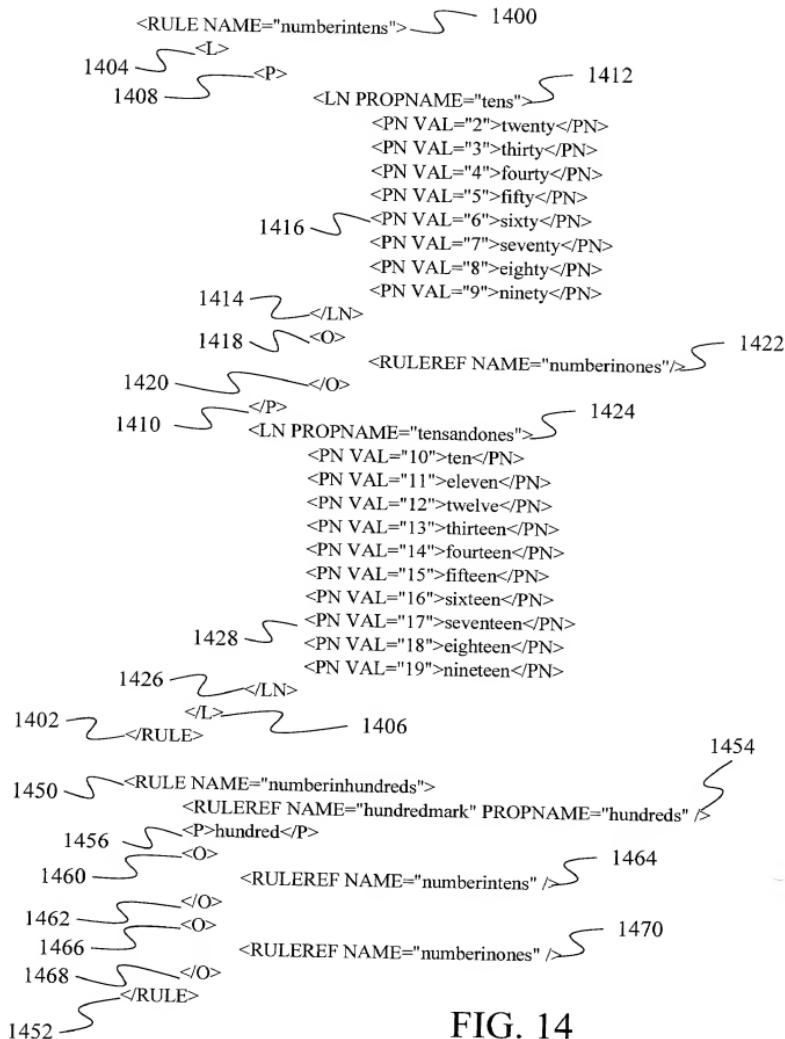


FIG. 14

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<RULE NAME="hundredmark" INTERPRETER=1> S 1500
  <RULEREF NAME="numberinones" />
</RULE> 2 1504
</GRAMMAR> 2 1502

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FIG. 15

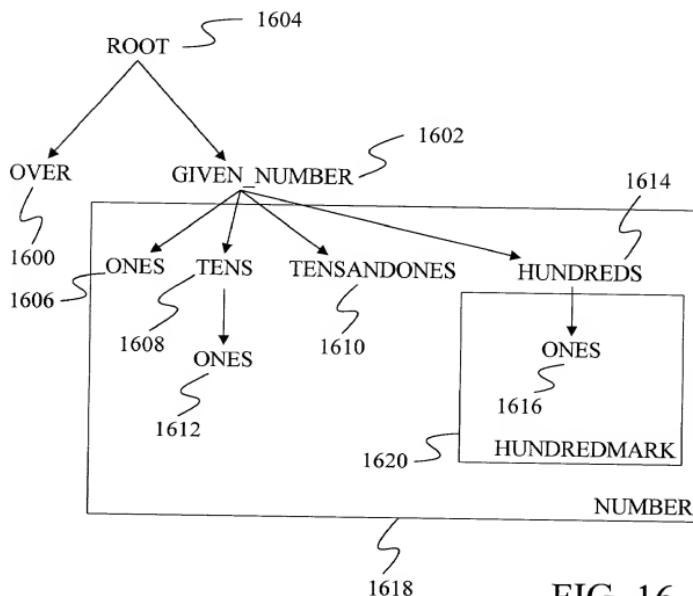


FIG. 16

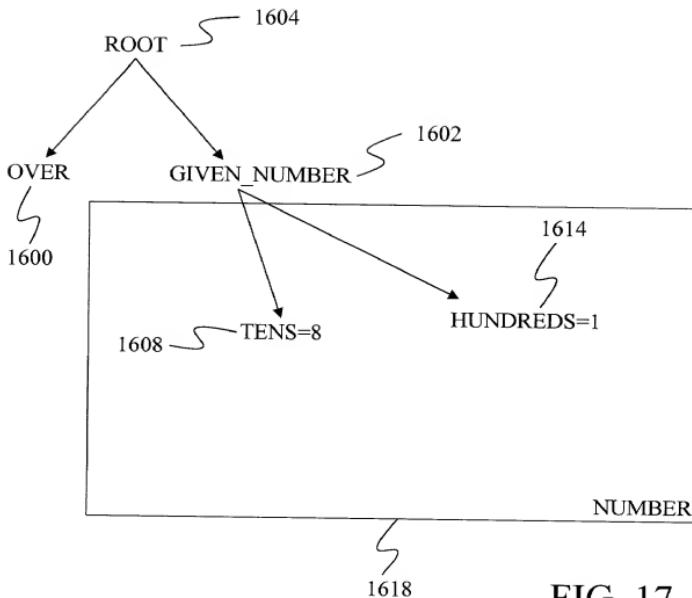


FIG. 17

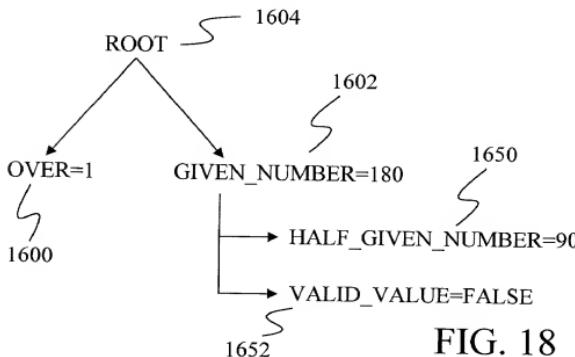


FIG. 18